spring of 1857, I examined damp forests in the neighborhood of Wilmington, North Carolina, and Charleston, South Carolina, without detecting it. In August, of 1857, while seeking salamanders and helices, in company with Dr. Wilson and Mr. Conrad, on the summit of Broad Top Mountain, of the Alleghany range, in western Pennsylvania, I found one specimen. Last month, while on a visit to our fellow member, Mr. S. Powel, at Newport, R. I., one damp morning I observed two fine specimens of the planaria, creeping near the top of a fence 8 feet in height. On the night of the same day, at the proposal of Mr. Powel, by the light of a lantern, we sought for the animal about the fence surrounding his grounds, and in the course of an hour we found twelve fine specimens. They were obtained from all parts of the fence, some on the top, and others on the ground.

Eight of them I have preserved alive, and now have them at my residence, living in a glass box beneath some fragments of moist wood. Occasionally I feed them on a crushed house-fly, which they appear to enjoy, as they suck at it with their protruded œsophagus for an hour at a time.

They are from 5 to 7 lines long, and creep about like the slug, with their snout-like head erect. They are light-ash colored, with a blackish streak down each side of the back, and a blackish spot just back of the middle, corresponding in position below with the mouth. In form they are like an awl split in its length, the narrower end forming the head. At the base of the latter is a pair of prominent black eyes. The lateral borders of the head are often inflected, and the head itself is sometimes, in a state of rest, doubled upon the back. The intestine presents the same dendritic arrangement as in the true fluviatile planariæ.

Dr. Meigs made some remarks touching the importance of obtaining statistics regarding the actual condition of Craniological collections, with a view to establish a system of exchanges.

August 31*st*.

Vice-President BRIDGES in the Chair.

Twenty-seven members present.

The following paper was ordered to be printed in the Proceedings:

Mineralogical Notes.

BY W. J. TAYLOR.

Lecontite.

This new and interesting mineral is remarkable as being a double sulphate of ammonia and soda with potash, containing two equivalents of water, and yet homœomorphous with the group of the anhydrous sulphates, and with Mascagnine, which contains but one equivalent of water. According to Prof. Dana (System. Mineralogy, p. 379), the formula for Mascagnine is RO, SO_3 + 2 HO, but this is a typographical error; the proper formula for this mineral being RO, SO_3 + HO, as will be seen in Sixth Supplement to Mineralogy by Prof. Dana. Lecontite and Mascagnine are consequently homœomorphous, its difference in angle being about four degrees, (Lecontite, $I : I = 103°\ 12'$, $O : 1\bar{1} + 117°\ 7'$; Mascagnine, $I : I = 107°\ 40'$, $O : 1\bar{1} + 122°\ 56'$,) and yet the one contains two equivalents of water and the other but one. Prof. Dana has very kindly made the annexed measurements of two crystals, which I sent to him soon after receiving the mineral from Dr. Le Conte, which measurements I made the substance of a verbal communication to the Academy, on the evening of the 16th of February, but owing to a mistake, it did not appear in print (though it is recorded in the minutes of that meeting) before the May number of the Academy's Proceedings. It was at this time supposed to be a new mineral, from the difference in angle found by Prof. Dana between it and other homœomorphous sulphates; and by a qualitative analysis that I made,

[Aug.

it was considered to be a double sulphate of potash and ammonia, (the potash, I then thought, was in excess,) and anhydrous, (in this judging erroneously from the form).

The composition is now definitely determined by a thorough quantitative examination, which, by the courtesy of Dr. F. A. Genth, I have made in his laboratory, and whom I here thank, for the facilities afforded me in the investigation of this new mineral.

Lecontite occurs in crystals varying greatly in size, some being an inch in length and narrow prisms; others are short, not exceeding one-eighth of an inch in length and quite broad. The smaller crystals are more perfect in form than the larger ones, and the angles are better defined.

The following are the measurements of Prof. Dana; the crystals he mentions did not admit of measurement by a reflected image, so that it was necessary to use a candle:

Trimetric or right rhombic prism—

$\breve{i}\breve{2} : \breve{i}\breve{2} = 115°$

$\breve{i}\breve{2} : I = 160°$ by measurement,

$\frac{1}{4}\bar{i} : \frac{1}{4}\bar{i} = 127°\ 30' - 128°$ (or over $i\bar{i}$, $52° - 52°\ 30'$

$I : I$ (calculated from $\breve{i}\breve{2} : \breve{i}\breve{2} =$ $\begin{cases} 76°\ 48' \text{ over } \breve{i}\breve{2} \\ 103°\ 12' \text{ over } i\bar{i} \end{cases}$

The faces I are small and indistinct except on one side.

Taking $\frac{1}{4}\bar{i} : \frac{1}{4}\bar{i} = 128°$ we have $I : I = 103°\ 12'$

$O : 1\bar{i} = 117°\ 7'$

In hardness the crystals of Lecontite are from 2· to 2·5; when free from the exterior organic matter they are clear and colorless; the smaller crystals are coated with a thin crust of organic matter from the matrix.

Taste saline and rather bitter. Permanent in the air; they contain as follows:

Ammonia,	per ct.	12·94	contains oxygen	3·98	
Potash,	"	2·67	" "	0·45	8·93
Soda,	"	17·56	" "	4·50	
Sulphuric acid,	"	44·97	" "	26·94	
Water,	"	19·45	" "	17·28	
Organic residue,	"	2·30			
Inorganic residue,	"	0·11			
Phosphoric acid,	"	a trace			

There is consequently an oxygen ratio of ammonia, soda and sulphuric acid and water, according to the numbers 8·93 : 26·94 : 17·28, which is almost exactly as 1 : 3 : 2, from which we have the general formula $RO\ SO_3 + 2HO$, and from this the specific formula (as Prof. Dana would write it) $2NH_4O, SO_3 + 3(NaO, KO)\ SO_3 + 10\ HO$; or $(\frac{2}{5}\ NH_4O + \frac{3}{5} NaO, KO)\ SO_3 + 2HO)$.

[It may be interesting to mention that there is an artificial salt, with a formula exactly corresponding to this, and of the same form, which, though rare, has been described by several chemists; it contains no potash, being solely a double sulphate of ammonia and soda, with the two equivalents of water, as mentioned above. It is described in Gmelin, Vol. III., p. 119, (Cavd. Edit): Seguin, Ann. Chem., 91, 219; Riffault, Ann. de Chem. et Phys., 20, 432 and 435 describe the salt and its formation, and Berzelius (3, 286) mentions that the crystals are derived from right rhombic prisms. In Rammelsberg's Krystallographische Chemie, p. 234, there is a figure and measurements of a trimetric (or right rhombic) crystal of a double sulphate of ammonia and soda, with four equivalents of water,* $(NH_4O, SO_3 + NaO, SO_3) + 4HO$; it is from a descrip-

* The formula, as written in Rammelsberg's Krystallographische Chemie, is:— "$(\dot{N}a\ \ddot{S} + \dot{A}m.\ \ddot{S}) + 4$ aq." I am indebted to a friend for the extract from this valuable work, there not being a copy of it to be found in Philadelphia.

tion and measurements by Mitscherlich: Pogg. Ann., 58, 469, but at present not having the works to compare, I am unable to conclude whether or not it is another salt, homœomorphous with the one just described. The similarity of form between compounds, in which there is a difference in the equivalents of water, is an interesting subject for investigation, and I shall endeavor to show at a future time, that the Trimetric sulphate of ammonia, generally considered anhydrous, may contain one or two equivalents of water, and yet preserve its homœomorphism.]

Lecontite was brought to this country, in January last, by Dr. John L. Le Conte, on his return from Honduras. He discovered it in the cave near Las Piedras, in the vicinity of Comayagua. It occurs in crystals imbedded in a black matrix, resembling bitumen in appearance, which Dr. Le Conte considers to be the decomposed excrement of bats, which infest this cave in great numbers, and have, most likely, inhabited it for ages. The cave near the entrance was, at the time of his visit, being worked for nitre, which was obtained "directly by lixiviating the earth taken from near the mouth of the cave. "The material containing the crystals merely furnished a tarry, black, semi-fluid mass, without nitre." On some of the crystals were observed minute hairs of the bats adhering, and I observed more, when removing the crystals from their matrix. In honor of Dr. Le Conte, for this interesting species which he has been the means of adding to mineralogy, I propose to call the mineral Lecontite.

Sulphate of Ammonia and Soda.

In looking over specimens of minerals recently presented to the Academy, my attention was attracted by a substance labelled "Ammonia," from the Chincha Islands of the Pacific Ocean; from its appearance it was suspected to be a sulphate of ammonia, and a qualitative examination confirmed my suspicion. It is in compact lumps, about the size of hickory nuts; hardness from 2.5 to 3: its color is a yellowish white, with a crystalline structure, taste pungent and bitter; opaque and permanent in the air. By a qualitative analysis, I found it to contain sulphuric acid, ammonia, soda and some organic matter, and by my first trials in a matrass I could not find water; on repeating them, I have found a small quantity. Whether the water is really a part of the mineral a quantitative analysis only can determine. I made an approximative determination of the sulphuric acid from a small fragment, and found it to contain about 48 per cent. Heated on platinum foil it blackens and fuses, though not very readily, leaving a white bead, which is soluble in water, and tastes a little saline and bitter. This mineral was presented to the Academy, I believe, by Dr. Bridges.

Stercorite?

I am indebted to Dr. Bridges for a specimen of a mineral from the Chincha Guano Islands, accompanying the sulphate above described, which, from a qualitative analysis, I now suppose to be Stercorite, (microcosmic salt,) which has been discovered by T. J. Herapath, Esq., in the guano from the Island of Ichaboe, on the western coast of Africa; it never has to my knowledge been found in the Pacific guano. I hope to get sufficient material to settle definitely whether it belongs to this species. The mineral which I have is columnar in structure, and has evidently been taken from a crevice in the guano. It is opaque; yellowish white in color, very soft, taste somewhat sharp, saline and slightly ammoniacal, partially deliquescent in the air.

B. B. or gently heated on platinum foil over a spirit lamp it intumesces and blackens, giving off ammonia and water; afterwards it fuses to a clear bead, which is readily soluble in water and has a saline taste. By a qualitative examination I found ammonia, soda, and an excess of phosphoric acid.

The physical characters are quite different from those of the stercorite described by Mr. Herapath, but the chemical components and the reactions before the blow pipe are similar.

Heteromorphite.

This mineral, which has never been mentioned as occurring on this continent, I have found on a specimen labelled "Antimonial Silver? from Chonta, Peru," associated with pyrites, and crystals of quartz colored nearly black. I am indebted to Wm. S. Vaux, Esq., for the specimen.

The mineral is principally in the form resembling cobwebs; some cavities in the specimen contain capillary crystals about one-sixteenth of an inch in length.

Color lead gray, a very little irised, lustre a dull metallic, B. B. sulphur, antimony, lead and zinc.

Vauquelinite.

The occurrence of this mineral in the United States is very rare, having, I believe, only heretofore been observed near Sing-Sing, N. Y., by Dr. Torrey. I have recently found it on a specimen from Pequa Lead Mine, Lancaster Co., Pa., in minute crystals, with very acute terminations, (distinguishable with a good lens,) which are often in radiated aggregations, forming incrustations on quartz and also on galena. The crystals have considerable adamantine lustre; their color varies from a siskin green to an apple green; some of the detached crystals appear quite light in color, which is probably owing to their partial translucency.

Alone in a matrass no water was evolved; on the first application of heat it turned very dark; B. B. with salt of phosphorus in oxydising flame a transparent green bead when hot. In reducing flame, red bead from presence of copper.

With carbonate of soda on a platinum wire a transparent green bead when hot, which becomes opaque on cooling, to which, on a watch glass, a drop of water was added, when the yellow alkaline chromate was apparent.

Small crystals of cerusite occur in the cavities in the galena.

Ilmenite.

It will be of interest to mention the occurrence, on the Schuylkill near Fairmount, of a boulder of gneiss, containing tubular crystals of Ilmenite. I have a fine crystal, an inch and a half in diameter, and about half an inch in thickness, which was given me by Mr. Lungreu, who I believe first found the locality.

Pyrophyllite? containing crystals of quartz.

Prof. Leidy gave me for examination a mineral associated with quartz, from a coal mine in Schuylkill Co., Pa., which from a preliminary examination I now suppose to be Pyrophyllite. (I hope to be able to obtain sufficient of the material for a quantitative analysis.) It is a tough, yellowish white, waxy mineral, with a pearly lustre, somewhat greasy to the touch, which occurs in a thin layer, not exceeding an eighth of an inch in its thickest part.

B. B. acts as pyrophyllite, becomes white, and exfoliates, though the exfoliation is not so great as with some of the radiated varieties of this mineral.

Implanted in this pyrophyllite (?) were two exceedingly interesting quartz crystals; they are quite small, the one being six and the other five-tenths of an inch in length, while the main hexagonal prisms have diameters of one-tenth to one-twentieth of an inch. The centres of each are hexagonal prisms, which for one-tenth of an inch are perfectly transparent, and terminate at each end in minute hexagonal prisms with distinct terminations; the larger crystal has over fifty terminations at its upper, and over thirty at its lower end: the smaller crystal has fewer terminations (not exceeding twenty), but these terminating prisms are longer and more distinct. The terminating prisms show a marked tendency to divergence or to radiate from the central prism.

The terminating planes of the many prisms, which I was able to distinguish with a good lens, are R and —1; the plane (—1) is however quite minute. My reason for particularly describing these crystals (which can be done very imperfectly without drawings) is, that I think there is a tendency to the form de-

scribed by Kenngott (Pogg. xcvii. 628) (3d Supplement to Dana's Mineralogy, p. 15.)

Staurotide?

A mineral resembling the so called Staurotide (?) found at the Canton Mine, Georgia, described by Prof. Shepard, (3d Supplement Dana's Mineralogy, p. 16,) I have found some time since, at a copper mine near Webster, Jackson Co., N. C. associated with automolite crystals as at the former locality. The preliminary analyses made of the mineral from the Canton Mine by Dr. Genth and myself, (the results of which agree,) renders the conclusion as to its being Staurotide very doubtful.

Cuproplumbite?

Among the ores brought home by Dr. Le Conte from his recent explorations in Honduras, was a specimen which particularly attracted my attention, from the mine of Antonio Cruz, near Comayagua; apparently it is galena, being massive and granular, with a cubical cleavage, on the faces of which there is a bronze tarnish, which gives the effect of a play of colors not unlike that on Bastite (Schiller Spar), the color being more coppery. On the edges it is decomposed, forming massive carbonate of lead, whilst the copper (in little geodes), as crystallized malachite, is disseminated through the mass.

B. B. lead, copper and a trace of antimony, streak black; sectile and brittle; fusible in an open glass tube over a spirit lamp.

Notwithstanding the similarity between its reactions and that of the cuproplumbite analysed by Platteser, this may be only a cupriferous galena as occurs in Tuscany, but the peculiar bronze hue of the cubical faces induced me to mention it among these notes. As soon as time permits I will analyse it quantitatively.

Hydrophite?

The mineral described by Dr. Genth, from Texas, Lancaster Co., Pa., (Keller and Tied. Nordamer. Monatsb. iii., 487) as Nickel-Gymnite, but which Prof. Dana (System Mineralogy, p. 285) considers a variety of Hydrophite, I have found near Webster, Jackson Co., N. C., in a band of serpentine, associated with chrome iron; (this band of serpentine is about two or three hundred yards in width, bearing N. E. and dips S.) It occurs as an amorphous reniform incrustation on a brownish green, granular serpentine, in which are crystals of chrome iron. Its hardness is about 3; lustre resinous; its color varies from an apple green to a yellowish green, streak greenish white. In a matrass, yields water. B. B. nickel and silica.

September 7th.

Vice-President BRIDGES in the Chair.

Twenty-four members present.

Dr. Hays announced the death on the 6th inst. of Dr. Edward Minturn, late a member of the Academy.

September 14th.

Vice-President LEA in the Chair.

Twenty-four members present.

Dr. Carson exhibited specimens of the fruit of Gaylussacia resinosa, from Warrior's Ridge, Huntingdon Co., Pa.; also starch from the tubers of Saggitaria saggittifolia.

On leave granted, a vote of thanks was presented to Dr. C. M. Cresson, for the donation of supposed fossil ripple-marks presented this evening.